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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/616,696

07/09/2003

Narutoshi Sugita

CSC-021CN

1591

959 7590 02/05/2007
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EXAMINER

YUAN, DAH WEI D

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/616,696

Applicant(s)

SUGITA ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 and 9-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

SOLID POLYMER ELECTRLYTE FUEL CELL STACK

Examiner: Yuan

S.N. 10/616,696

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January 30, 2007

Detailed Action

1. The Applicant's amendment filed on November 13, 2006 was received. The specification was amended. Claim 5 was amended.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on July 17, 2006.

Claim Rejections - 35 USC § 103

3. Claims 5,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US 6,096,450).

Walsh teaches a fuel cell stack comprising a plurality of fuel cell units each including an anode electrode, a cathode electrode and a solid polymer membrane interposed between the anode electrode and the cathode electrode, wherein each of the fuel cell units has a rectangular shape (see Figure 2), a fuel gas supply port and an oxygen-gas supply port are located at upper corners of the fuel cell units. Moreover, a plurality of fuel gas flow passages connecting the fuel gas supply port and the fuel gas discharge port while a plurality of oxygen flow passages connecting the oxygen gas supply port and the oxygen gas discharge port. Walsh further teaches the fuel gas supply port (150) is disposed at a diagonal position with respect to the fuel gas discharge port

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(150') and the oxygen supply port is provided at a diagonal position with respect to the oxygen discharge port. See Figure 2.

The disclosure of Walsh differs from Applicant's claims in that Walsh describe his flow passages being serpentine passages having more than two turns. However, it would have been an obvious matter of design choice to manufacture these components having two turns in the serpentine flow passages, since such a modification would have involved a mere change in the particular configuration of the component. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Also, it is the position of the examiner that the criticality on the numbers of turn in the flow passages and the relative dimensions of the horizontal length and the vertical length of the fuel cell unit do not provide patentable distinction.

4. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Fujii et al. (US 6,048,633) on claims 5-8 are withdrawn because Applicant's comments are persuasive.

Allowable Subject Matter

5. Claims 7,8 are allowed. Claims 7,8 are allowable because the closest prior arts of record, Walsh, does not disclose or suggest the serpentine passages include a plurality of first grooves and a plurality of second grooves, wherein a selected number of said plurality of first grooves merge into a selected number of said plurality of second grooves.

Response to Arguments

6. Applicant's arguments filed on November 13, 2006 have been fully considered but they are not persuasive.

Applicant's principal arguments are

Walsh does not teach that each fuel cell unit has a rectangular shape having a horizontal length longer than vertical length as recited in the claim.

In response to Applicant's arguments, please consider the following comments.

The court held that configuration of the claimed shape was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed invention was significant. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
January 30, 2007



DAH-WEIYUAN
PRIMARY EXAMINER